

Amendments to the claims:

Added text is underlined and deleted text is struck through.

1. (currently amended) A method for determining the ability of a network to spread information or physical traffic, said network including a number of network nodes interconnected by un-directed links, said method comprising the steps of:

mapping the topology of a network;
computing a value for link strength between the nodes;
computing an Eigenvector Centrality index for all nodes, said index based on said link strength values;

identifying nodes which are local maxima of the Eigenvector Centrality index as centre nodes;

grouping the nodes into regions surrounding each identified centre node;

assigning a role to each node from its position in a region, wherein types of roles include centre nodes, region member nodes, border nodes, bridge nodes, and dangler nodes wherein the role of region member nodes in a given region is assigned to all nodes for which a steepest ascent link path in the topology terminates uniquely at the centre node of that region; and

measuring the susceptibility of the network to spreading, said measuring based on the number of regions, the size of the regions, and how the regions are connected.

2. (currently amended) A method as claimed in claim 1, wherein computing said link strength value further comprises counting ~~the~~ a number of different types of bonds any pair of nodes uses in their interaction, and using the number of bonds as a measure for link strength.

3. (previously presented) A method as claimed in claim 1, wherein computing said link strength value further comprises measuring the traffic between any two nodes and using the measure of traffic as a measure for link strength.

4. (currently amended) A method as claimed in claim 1, wherein computing said link strength value further comprises measuring the amounts of traffic between ~~each~~ pairs of nodes for ~~each~~ different types of bond, dividing the amount of traffic in each type of bond with the a total traffic for that type of bond, and using the a sum of the resulting fractions as a measure for link strength.

5. (previously presented) A method as claimed in claim 1, further comprising organizing said link strength values into an adjacency matrix and computing the Eigenvector Centrality index as the principal eigenvector of said adjacency matrix.

6. (previously presented) A method as claimed in claim 1, further comprising assigning the role of border nodes to all that have no unique association to any one centre node.

7. (currently amended) A method as claimed in claim 1, further comprising assigning the role of bridge nodes to all border nodes which lie on at least one ~~non-self retracing~~ link path connecting two centre nodes.

8. (currently amended) A method as claimed in claim 1, further comprising assigning the role of dangler nodes to all border nodes which lie on no ~~non-self-retracing~~ link path connecting two centre nodes.

9. (previously presented) A method as claimed in claim 1, further comprising preventing spreading of a virus in the network by identifying which nodes to protect.

10. (currently amended) A method as claimed in claim 1, said method being adapted for improving spreading of information within said network ~~for improving spreading of information in a network by identifying nodes for spreading information.~~

11. (currently amended) A method as claimed in claim 1, said method being adapted for improving robustness or security or communication efficiency when planning an architecture for said network ~~for planning an architecture of a network, in order to improve robustness or security or communication efficiency in said network.~~

12. (currently amended) A method as claimed in claim 1, said method being adapted for improving robustness of said network when designed to be a power network ~~for planning an architecture of a power network in order to improve robustness of said network.~~

13. (currently amended) A method as claimed in claim 1, said method being adapted for planning said network to be a distribution network for goods ~~for planning a distribution network for goods~~.

14. (currently amended) A method as claimed in claim 1, said method being adapted for planning said network to be a transport network ~~for planning a transport network~~.

15. (currently amended) A method as claimed in claim 1, said method including a further step of selectively identifying nodes for preventing spreading of harmful information in said network ~~further comprising preventing spreading of harmful information in the networks by identifying which nodes to protect~~.